UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/190,043	11/10/98	HOUCK J	47.653.2

HM22/0924

GEORGE W NEUNER
DIKE BRONSTEIN ROBERT & CUSHMAN
130 WATER STREET
BOSTON MA 02109

EXAMINER	
BORIN,M	
ART UNIT	PAPER NUMBER
1654	9

DATE MAILED: 09/24/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/190,043	Houck et al.
Examiner	**Group Art Unit**
M. Borin	1654

☒ Responsive to communication(s) filed on *Mar 22, 1999* .

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-20* is/are pending in the application.

Of the above, claim(s) *4-20* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-3* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *4*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Status of Claims

Response to restriction requirement filed 06/28/99 is acknowledged. Applicant elected, with traverse Group I, claims 1-3. Applicant argues that there is no undue burden of search to examine all of the 10 groups indicated in the restriction requirement. "For purposes of the initial requirement, a serious burden on the examiner may be prima facie shown if the examiner shows by appropriate explanation either separate classification, separate status in the art, or a different field of search. That prima facie showing may be rebutted by appropriate showings or evidence by the applicant" (MPEP § 802.02). In the restriction requirement Examiner explained that the methods as claimed have different functions, different effects and different modes of operation, and that a reference teaching one method (e.g., treatment of chronic inflammatory bowel disease) will not teach or suggest another method (e.g., treatment of allergy or inhibition of mucous release in airways). Further, the groups drawn to methods of treatment are drawn to treatment of patentably distinct disorder conditions which are patentably distinct because the disorder conditions are not related to each other, have different mechanisms of development and etiology. In particular case of group VII, mucous release into airways and allergy are not necessarily directly related and each can be triggered independently and separately from the other. The restriction requirement is still deemed proper and is therefore made FINAL. Claims 4-20 are withdrawn from consideration.

Information Disclosure Statement

Applicants' Information Disclosure Statement filed 3/24/99 has been received and entered into the application. Accordingly, as reflected by the attached completed copies of forms PTO-1449, the cited references have been considered.

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Sequence Listing

This application contains sequence disclosures that are encompassed by the definitions for amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2), such as tetrapeptides recited in claim 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c). A copy of the "Sequence Listing" in computer readable form has not been received as required by 37 C.F.R. 1.821(e). Applicant must provide: 1. An initial computer readable form (CRF) copy of the "Sequence Listing"; 2. An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification. 3.A statement that the content of the paper and computer readable

copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

Claim Rejections - 35 U.S.C. § 103.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as obvious over Gleisner (Inflammation, 5, 13-17, 1981) in view of Oxford Dictionary of Biochemistry and Molecular Biology (1981) and Casale and Dimitrascu, and further in view of Kermode, Ferry and Anderson.

The instant claims are drawn to method for treating allergy reaction by formyl Met peptides having formula f-Met-Leu-X.

Gleisner teaches that formyl Met peptides inhibit mast cell degranulation, in particular release of histamine. Particular examples of the formyl Met peptides are f-Met-Phe, f-met-Leu-Phe. The

study concludes that the formyl Met peptides described in the reference as well as their structural analogs can be a useful addition to antihistaminic drugs. It is well known that antihistamine drugs are used in the treatment of allergy reactions. See, e.g., Oxford Dictionary of Biochemistry and Molecular Biology, 1997, p. 43. It is well known as well that mast cells are the most important cells in the development of allergenic response. References of Dumitrascu and Casale are provided as an example. Therefore, it would be obvious to use formyl Met peptides in the treatment of allergy reactions.

In regard to particular formyl Met peptides, a variety of preferred species of formyl Met peptides is known in the prior art. Thus Kermode (reference AE discloses that formyl Met peptides, such as f-Met-Leu-Phe, f-Met-Leu-Phe-Phe and f-Nle-Leu-Phe-Tyr asa functional equivalents. In particular, f-Met-Leu-Phe-Phe is one of the most potent formyl Met peptides analogs. See p.276, first paragraph; Tables 1,2; Fig.2;p. 719. Similarly to Kermode reference, Ferry et al. (Reference AM) teach formyl Met peptide, f-Met-Leu-Tyr.

The cited reference discussing formyl Met peptides do not disclose peptides f-Met-Leu-Phe-Tyr and f-Met-Leu-Tyr-Phe. Anderson (reference AC) teaches that the requirements for the core structure of biologically active formyl Met peptide analogs are the following: N-acyl formyl group, a Met or Nle residue in position 1, Leu, Val or Ile residue in position 2, and an aromatic amino acid in position 3; a formyl Met peptide analog can be either a tripeptide or a tetrapeptide. See p. 253, Discussion section, first paragraph. As an example, Anderson teaches such formyl Met peptides as f-Met-Leu-Phe, f-Met-Leu-Tyr. See Table 2. In regard to the instantly claimed peptide f-Met-Leu-

Phe-Tyr, it would have been *prima facie* obvious to one of ordinary skills in art at the time the invention was made to be motivated to substitute Nle for Met residue in position 1 of the peptide f-Nle-Leu-Phe-Tyr reported by Kermode, because Anderson teaches that biological activity of the peptides is retained when the residue in position 1 is either Nle or Met. One would expect that formyl Met peptide analog obtained by such substitution would have the same biological properties, i.e., activate functions of neutrophils. In regard to the instantly claimed peptide f-Met-Leu-Tyr-Phe, it would have been *prima facie* obvious to one of ordinary skills in art at the time the invention was made to be motivated to substitute Phe for Tyr residue in position 3 of the peptide f-Nle-Leu-Phe-Phe reported by Kermode, because Anderson teaches that the residue in position 3 can be an aromatic amino acid, such as Phe or Tyr (see examples in Anderson, Table 2, lines 1, 2). One would expect that formyl Met peptide analog obtained by such substitution would have the same biological properties, i.e., activate functions of neutrophils.

It is the Examiners position that all the elements of Applicant's invention with respect to the specified claims are fully envisioned by the teaching of the references cited above.

Claim 3 is rejected under 35 U.S.C.103(a) for the reasons set forth in the rejections of claims 1,2 above and further in view of Goodman and Gilman (p. 170; reference AL).

The instant claims are drawn to combination therapy including formyl Met peptides discussed above and other active ingredients, such as anti-leukotriens, beta agonists, etc.

Use of other ingredients claimed in the instant claim for treatment of allergy is very well known in the art. See, e.g., Goodman and Gilman , p. 170(reference provided by the applicant). It is well known that it is prima facie obvious to combine two or more ingredients each of which is taught by the prior art to be useful for the same purpose in order to form a third composition which is useful for the same purpose. The idea for combining them flows logically from their having been used individually in the prior art. In re Pinten, 459 F.2d 1053, 173 USPQ 801 (CCPA 1972); In re Susi, 58 CCPA 1074, 1079-80; 440 F.2d 442, 445; 169 USPQ 423, 426 (1971); In re Crockett, 47 CCPA 1018, 1020-21; 279 F.2d 274, 276-277; 126 USPQ 186, 188 (1960). As the court explained in Crockett, the idea of combining them flows logically from their having been individually taught in the prior art.

Conclusion.

No claims are allowed

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Borin whose telephone number is (703) 305-4506. Dr. Borin can normally be reached between the hours of 8:30 A.M. to 5:00 P.M. EST Monday to Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Mr. Michael Woodward, can be reached on (703) 308-4028. The fax telephone number for this group is (703) 305-3014.

Any inquiry of a general nature or relating the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

September 22, 1999

mlb

MICHAEL BORIN, PH.D
PATENT EXAMINER